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10/760,246

01/21/2004

Kia Silverbrook

MPA10US

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SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

EXAMINER

MARTIN, LAURA E

ART UNIT

PAPER NUMBER

2853

MAIL DATE

DELIVERY MODE

08/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/760,246

Applicant(s)

SILVERBROOK ET AL.

Examiner

Laura E. Martin

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

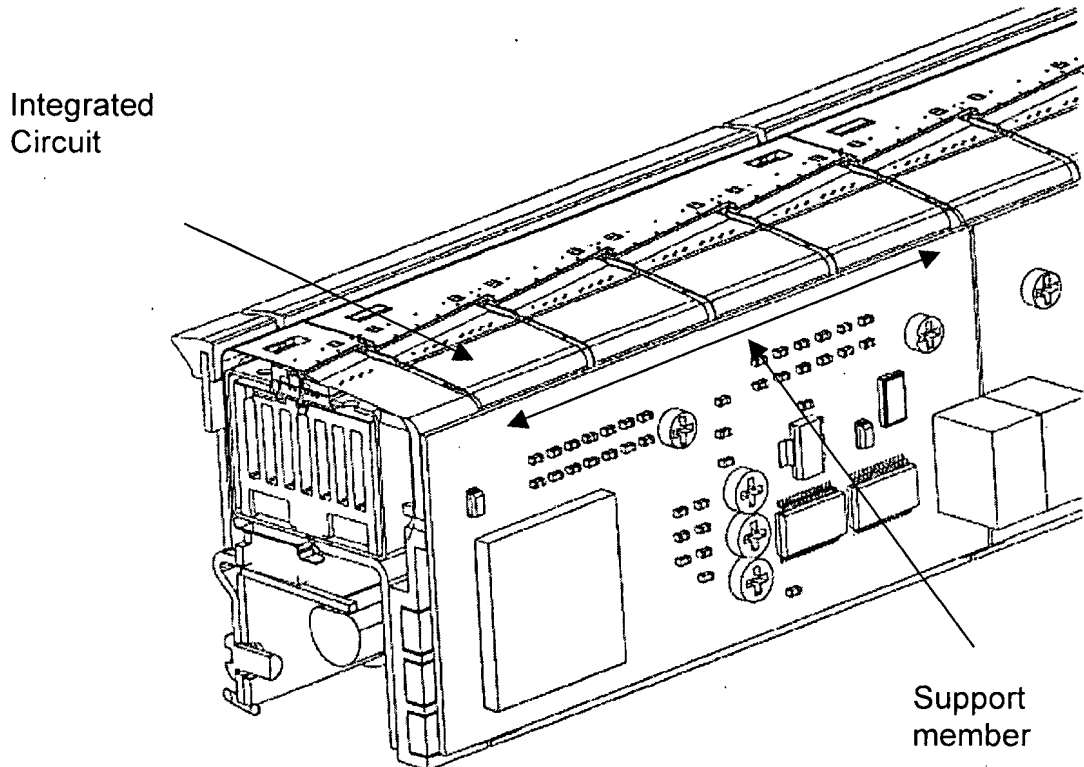
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 20020180834 A1) in view of Moon et al. (US 20020005878 A1).

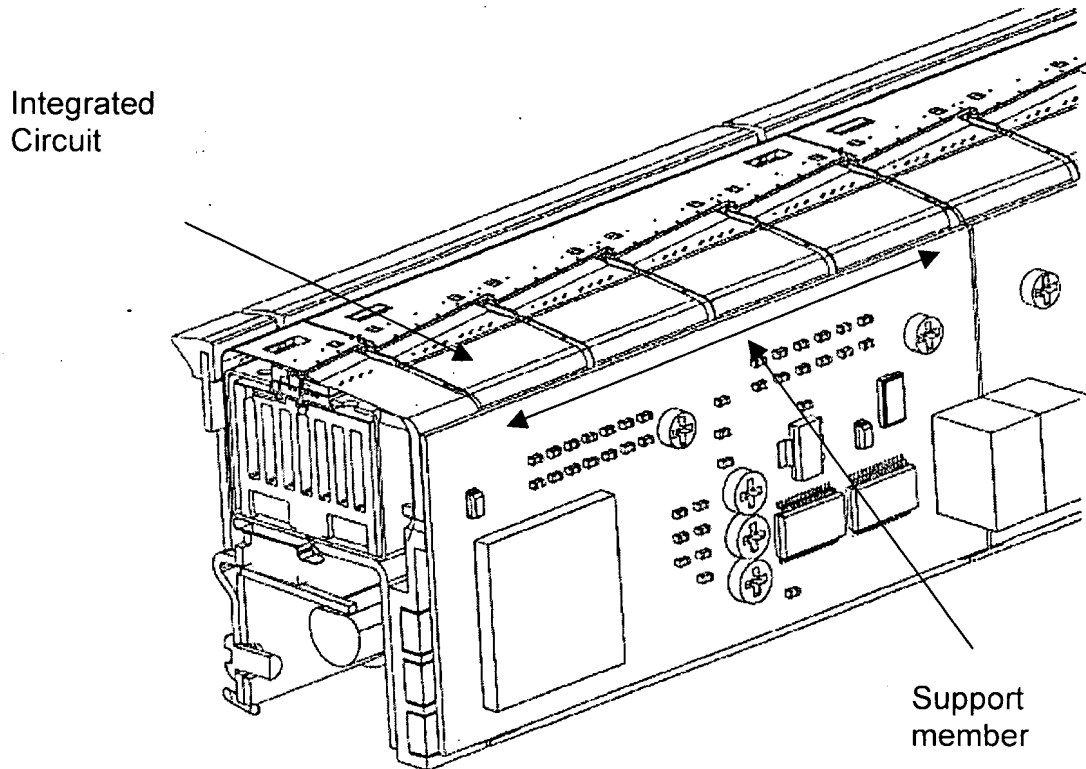
Silverbrook discloses the following claim limitations:

As per claim 1: at least two printhead modules (figure 9), each comprising at least two printhead integrated circuits (figure 9, [0057]), each of which has nozzles formed therein for delivering printing fluid onto the surface of print media, and a support member (figure 9, [0058]) on which the at least two printhead integrated circuits are mounted; and a casing in which at least two printheads are arranged so as to be removably mounted in linearly aligned relationship (figure 8, [0057]), wherein the support member has at least one longitudinally extending channel for carrying the printing fluid for the printhead integrated circuits (figure 9), and each printhead module has end portions which permit interconnection of the linearly aligned printhead modules and provide for fluid communication of the channels of the support members thereof (figures 8 and 9, [0058]).



As per claim 5: at least two printhead modules are formed a: arrangement (figure 9) of the at least two printhead integrated circuits, the support member, at least one fluid distribution member mounting the at least two printhead integrated circuits to the support member (figures 8 and 9), and an electrical connector for connecting the electrical signals to the at least two printheads [0056]; and each of the support members has a plurality of apertures extending from the at least one channel through a wall of the support member arranged so as to direct the printing fluid from at least one channel to associated nozzles in both, or more than two, all the printhead integrated circuits by way of respective ones of the fluid distribution members (figure 8).

Silverbrook does not disclose the following claim limitations:



As per claim 5: at least two printhead modules are formed a: arrangement (figure 9) of the at least two printhead integrated circuits, the support member, at least one fluid distribution member mounting the at least two printhead integrated circuits to the support member (figures 8 and 9), and an electrical connector for connecting the electrical signals to the at least two printheads [0056]; and each of the support members has a plurality of apertures extending from the at least one channel through a wall of the support member arranged so as to direct the printing fluid from at least one channel to associated nozzles in both, or more than two, all the printhead integrated circuits by way of respective ones of the fluid distribution members (figure 8).

Silverbrook does not disclose the following claim limitations:

As per claim 1: integrated circuits fixedly mounted to a support member.

Moon et al. disclose the following claim limitations:

As per claim 1: integrated circuits fixedly mounted to a support member [0078].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printhead taught by Silverbrook with the disclosure of Moon et al. because it would allow for a more simple manufacturing process.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 20020180834 A1) and Moon et al. (US 20020005878 A1), and further in view of Milan (US 5658158).

Silverbrook as modified discloses the following claim limitations:

Silverbrook as modified teaches the printhead assembly of claim 1

Silverbrook as modified does not disclose the following claim limitations:

Silverbrook as modified does not disclose end portions comprising complementary female and male end portions.

Milan discloses the following claim limitations:

Milan teaches end portions of each of the printhead modules comprise complementary female and male end portions (figures 1 and 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus of Silverbrook as modified with the disclosure of Milan in order to create a secure connection within the assembly.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 20020180834 A1), Moon et al. (US 20020005878 A1), and Milan (US 5658158), and further in view of Higgins (US 6180002).

Silverbrook as modified discloses the following claim limitations:

Silverbrook as modified teaches the printhead assembly of claim 2.

Silverbrook as modified does not disclose the following claim limitations:

Silverbrook as modified does not teach a sealing adhesive is provided at the interface of the interconnected printhead modules, wherein the sealing adhesive is an epoxy.

Higgins as modified discloses the following claim limitations:

Higgins teaches a sealing adhesive is provided at the interface of the interconnected printhead modules (figure 4, element 66), wherein the sealing adhesive is an epoxy (column 5, line 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus of Silverbrook as modified with the sealing adhesive of Higgins in order to create a higher quality and more durable ink cartridge.

Response to Arguments

Applicant's arguments filed 7/11/07 have been fully considered but they are not persuasive. Applicant argues that 834 teaches a plurality of ink reservoir moldings, but

these moldings do not have a plurality of integrated circuits mounted to the support member. As illustrated above, each printhead module has at least two integrated circuits which are mounted to the support member shown in figure 8. The support member has fluid connections, as shown in figure 8.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

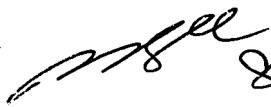
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin

 8/13/07
MANISH S. SHAH
PRIMARY EXAMINER